THE OFFICE OF THE STATE CHIEF INFORMATION OFFICER
ENTERPRISE TECHNOLOGY STRATEGIES

North Carolina Statewide Technical Architecture

Implementation Guidelines:
Platform Architecture

STATEWIDE TECHNICAL ARCHITECTURE

Implementation Guidelines: Platform Architecture

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Introduction

The intent of this document is to provide general implementation guidelines within the platform technology domain. This will help ensure that the State of North Carolina adopts uniform and consistent implementation platform solutions across the state enterprise.

The key goal of this document is to outline implementation guidelines that, when followed by the solution developers, will lead to a well-designed network solution that has the flexibility to grow with changes in technology and can be maintained in an efficient and effective manner. This is a fundamental principle of the North Carolina Statewide Technical Architecture.

This implementation guild is currently being revised both to better reflect the state of technology and improve upon existing architectural guidelines to better support state agency initiatives.

Implementation Guidelines

Implementation Guidelines for Server Platform

Guideline 1: Make server platform decisions after the business makes some basic determinations regarding growth, scalability, portability, and openness.

Rationale

- *Growth*: Must the technology accommodate substantial growth beyond present data and transaction volumes?
- *Scalability*: In accommodating growth, must the technology be able to start small and grow by continuous small increments? Alternatively, is it acceptable for the technology to grow in major, discontinuous steps?
- *Portability*: Will it be necessary to move software across server platforms at some point in the future?
- *Openness*: What are the business implications if a proprietary system is used, thus eliminating the option to choose system components from many vendors?

Guideline 2: Consider several criteria when selecting a server platform.

Rationale

- *Financial viability* of the vendor.
- *Packaged software* availability.
- *Ability* to meet business (agency) needs.
- *Adherence to state standards and direction.*
- *Cost.*
- *Availability of skill sets* for development on the appropriate platform and for management following implementation.
- *Availability of technical support.*
- *Availability of systems management tools for the platform.*
- *Securability of platform*
- *Service terms* and conditions.

Implementation Approach for Server Platform

Avoid New Deployment Migrate From Technology	**Current Technology Direction**	**Emerging Technology**
File and Print Servers		
NOS that are unable to connect to the enterprise directory using the standards defined in the Directory Services section of the Groupware chapter.	Novell NetWare, Unix, Windows Commercially Distributed Linux	
Application Servers		
Any server with a proprietary operating system that can only run on that same vendor's hardware	UNIX, Windows	Java Virtual Machine (JVM)
Any 16-bit operating systems	32- or 64-bit operating systems	
Database Servers		
Any 16-bit operating systems	32- or 64-bit operating systems	

Any platform that does not support relational database management systems	Utilizing existing data on mainframe machines in a client/server environment. UNIX, Windows NT	Platforms that support object databases

Table 1 - Server Platform Implementation Strategies

Implementation guidelines for Client Platform

Guideline 1: When selecting a client platform, consider the financial viability of the vendor, the availability of packaged software, the ability to meet agency needs, adherence to state standards and direction, cost, availability of skill sets for development on the platform, support availability, and service terms and conditions.

Rationale

- Technology and technology companies come and go. Consideration of vendor viability and availability of support, service, and skill sets mitigates risk associated with a dynamic and volatile market place.

Guideline 2: Migrate from character cell interfaces to graphical user interfaces.

Rationale

- A graphical interface is more natural for users and is more effective.

Guideline 3: Use existing standards for user interfaces, such as Open Look or OSF Motif for UNIX Workstations, Windows GUI for personal computers, or web browser for workstations or personal computers.

Rationale

- This approach increases reuse, enables RAD, makes user training easier, and enhances the maintenance process.

Implementation Approach for Client Platform

Avoid New Deployment Migrate From Technology	Current Technology Direction	Emerging Technology
	Client Platforms in General	
Proprietary client products	Standards based client products	
	User Interfaces	
Character based interface	Graphical user interface (GUI)	Speech Recognition
3270	Windows, X-Windows	
DOS	Web Browsers	
	Operating Systems	
16-bit operating systems	32- or 64-bit operating systems	Web terminals and network computers
DOS	Windows 95	
Windows 3.1	Windows NT	
Windows for Workgroups	UNIX	
	OS/2 Warp	
	Linux	
	Java Virtual Machine	
Proprietary smart card operating systems	Multos, JavaCard, ISO 7814/4	

Table 2 - Implementation Guideline Summary for Evaluating Operating Systems and User Interfaces for Client Platforms